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ABSTRACT

This final report contains some narrative material and the products of a project to design and conduct inservice training for vocational educators to enable them to incorporate the Computer Assisted Vocational Mathematics Program into their curriculum. (Computer Assisted Vocational Mathematics is designed to increase students' knowledge of applied mathematics in their chosen vocational field through individualized computerized packets and peer tutoring guides.) The informational pamphlet is provided that describes elements of the curriculum and the training program. Next is presented the Computer Assisted Vocational Mathematics Workshop Booklet. Contents include the agenda, background information, topics covered (BASIC programming, writing programs, editing, and practical applications of the Computer Assisted Vocational Mathematics program), a sample computerized packet (one of 32 developed), and a troubleshooting manual. The workshop evaluation form and evaluation results are provided. (YLB)

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FINAL REPORT

of

COMPUTER ASSISTED VOCATIONAL MATHEMATICS WORKSHOPS

NS8213314

1981-82

Manchester Township High School
Colonial Drive
Lakehurst, N.J. 08733
(201) 341-4800

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CE033496

This project reported herein was conducted pursuant to a contract from the New Jersey Department of Education, Division of Vocational Education and Career Preparation. It was funded under Section 133 of Public Law 94-482.

Project Duration: September 1, 1981 (beginning date)

June 15, 1982 (ending date)

The Contractors undertaking this project were encouraged to express fully their judgements in professional and technical matters. Points of view or opinions do not, therefore, necessarily represent official funding agency positions or policies.

CONTRIBUTIONS:

1. Increased the knowledge of vocational personnel and high school educators in the implementation of Computer Assisted Vocational Math curriculum.
2. Enhanced the vocational personnel's competency with a new and emerging technological advance that is having a great impact on occupations of the 80's, the Computer.

ACKNOWLEDGEMENTS

Our heart-felt appreciation goes out to the members of our Advisory Council:

Martha Pocsi

Michael Boyd

Sandra Carine

Marilyn Halpern

Fran Martin

Jerri Roselli

Leonard Sidle

Robert Wertzel

Orlando Sheets

Josie Boglio

Richard Fosko

Priscilla Walsh

without them we would not have been able to meet the needs of the vocational educators that attended our workshops.

We would also like to take this opportunity to thank Richard Fosko, Principal at Manchester Township High School for his continued support.

And at this time to acknowledge the Advanced Foods Classes that prepared the lunches for our workshops.

It would have been impossible to tie it all together without our secretary, Mrs. Sandy Carine.

Finally, our thanks to Martha Posci who guided us through the rough spots.

TABLE OF CONTENTS

page

Disclaimer. i

Abstract. ii

Acknowledgements. iv

Introduction. 1

Problem 2

Objectives. 2

Procedures Used 4
1. Workshop Registration Pamphlet. 5
2. Workshop Booklet. 6

Findings. 7
1. Sample Evaluation Sheet 8
2. Evaluation Data 9

Interpretation of Findings. 11

Dissemination 11

Sex Bias Elimination Strategies 11

Conclusions 12

Recommendations 12

Appendices. 13

INTRODUCTION

The purpose of our project was to enable other educators across the state to develop our Computer Assisted Vocational Math Program into their curriculum. We did this via three workshops. The original project, Computer Assisted Vocational Math, was designed to increase the students' knowledge of applied mathematics in their chosen vocational field through individual computerized packets and peer tutoring guides.

A complete listing of the computer tapes that were developed includes:

Program	Title
1.	Diagnostic Test
2.	Addition of Decimals
3.	Subtraction of Decimals
4.	Multiplication of Decimals
5.	Division of Decimals
6.	Rounding Numbers
7.	Equlivant Fractions
8.	Fraction Concentration
9.	Ruler II - Improper Fractions, Mixed Numbers, Multiplication and Division of Fractions
10.	Ruler II - Concentration
11.	Introduction to Percents
12.	Payroll
13.	Metric Measure - Length
14.	Meter Concentration
15.	Metric Measure - Volume
16.	Liter Concentration
17.	Metric Measure - Mass or Weight
18.	Gram Concentration
19.	Perimeter
20.	Polygon Concentration
21.	Area
22.	Lateral Area and Total Surface Area

Program	Title
23.	Tic Tac Toe
24.	Volume 1
25.	Volume of Phramid, Cone and Sphere
26.	Simplifying and Evaluating Variable Expressions
27.	Solving Equations
28.	Solving Equations with Formulas
29.	Shop Formulas
30.	Ratio and Proportions
31.	Graphing
32.	Computer Programming

PROBLEM:

The purpose of this proposal was to provide in-service training for vocational education teachers and staff members to improve the quality of instruction, (including exclusion of sex bias) supervision and administration of the Computer Assisted Vocational Mathematics Curriculum.

The curriculum which was developed under a funded project for the 1980/81 year and submitted to the federal government as one of the two outstanding projects from the state of New Jersey, had been received so favorably that many educators had expressed a desire to attend in-service training.

OBJECTIVE:

The specific objectives were to develop an informational pamphlet to describe the important elements of the Computer Assisted Vocational Mathematics Curriculum and the training program itself, to contact all vocational schools and sending schools in the state of New Jersey to apprise them of the viability of the curriculum and to design and conduct in-service workshops for vocational personnel. (see pamphlet)

The plan had two distinct phases. First, the directors, through daily released time, developed the materials and pamphlet needed to publicize the existing curriculum and the projected workshops.

Second, the directors conducted workshops so that interested vocational teachers and other personnel would be able to implement this or a similar curriculum.

In addition, the directors met with Advisory Council members several times during the year. The purpose of these meetings was to see that the objectives were being met.

(see Computer Assisted Vocational Math Workshop Booklet)

PROCEDURES USED:

1. Workshop Registration Pamphlet
2. Workshop Booklet

COMPUTER ASSISTED VOCATIONAL MATH

A WORKSHOP TO MEET THE NEEDS OF THE '80'S!!!

CAVM

WORKSHOP

COMPUTER ASSISTED VOCATIONAL MATH
Manchester Township High School
Colonial Drive
Lakehurst, New Jersey 08733

PLACE
STAMP
HERE

REGISTRATION POLICY

1. Please complete the workshop registration forms and return to the address printed on the form as soon as possible.

2. PRE-REGISTRATION--

(by mail or phone) is required for all workshops. When calling, contact Sandy Carine at (201) 341-4800.

3. Confirmation of your registration will be mailed ten days prior to the work shop date.

4. Workshops are limited to thirty (30) persons on a first come, first serve basis. No walk ins will be allowed.

5. The workshop registration fee is $8.00 per person.

(lunch included)

Checks or money orders are payable to :

"MANCHESTER TWP. HIGH SCHOOL"

CAVM

WORKSHOP REGISTRATION CARD

DATE _____

Name _____ Title or Position _____

School/Bus Address _____

_____

School /Bus Phone _____ County _____ Zip _____

_____ Ext. _____

I am interested in attending: (Select in order of preference- 1st, 2nd, 3rd.)

March 1 _____ April 2 _____ May 14 _____

(please detach and return as soon as possible since space is limited)

LOOKING FOR A REVOLUTIONARY APPROACH TO TEACHING VOCATIONAL MATHEMATICS?

This may be your answer!

Through a one day clinic, you will gain the expertise needed to implement a computerized vocational math curriculum. This course will intrigue your students as well as strengthen their mathematical skills.

The curriculum was developed under a funded project for the 1980-81 school year and submitted to the federal government as one of the outstanding projects from the State of New Jersey.

This year we were funded by the

Division of Vocational Education and Career Preparation
New Jersey State Dept. of Education

to offer workshops in the implementation of the curriculum.

CAVM

WORKSHOP

HIGHLIGHTS

CURRICULUM EXPOSE

Take a peek at the project!

COMPUTER LITERACY

Eliminate the math anxiety associated with computers!

TROUBLE SHOOTING SESSION

Confront the problems Here and Now!!!

EVALUATION SESSION

SPEAK OUT!!!

Did we meet your needs?

WORKSHOPS

ANNOUNCING three individual workshops geared to enhance the mathematics needed in vocational education via the microcomputer

PROJECT DIRECTORS

Judith Daly
Millicent McNearney
Monica McAlister
Prin. Richard Fosko

When : March 1, 1982
April 2, 1982
May 14, 1982

Where : Manchester Twp. High School
Colonial Drive
Lakehurst, New Jersey
08733

Directions to:

MANCHESTER TWP. HIGH SCHOOL

* Take the Garden State Pkwy. South to Exit 88 (Route 70)

* Follow Rt. 70 West to the first traffic circle then take Rt. 37 East to the first intersection (approx. ¼ mile)

* On the left you will see the Manchester Twp. Municipal Building, and the New Jersey National Bank

* Make a right on Colonial Drive. At the end of Colonial Drive (3000 ft.) is the school.

* (201) 341-4800

ALTHOUGH COMPUTER LITERACY IS NO WAY ESSENTIAL TO THE SUCCESSFUL COMPLETION OF THIS WORKSHOP IN ORDER TO MEET THE NEEDS OF THE PARTICIPANTS PLEASE COMPLETE THE FOLLOWING QUESTIONS:

1. List your computer background(if any) _____

2. Does your school or institution have access to any computer hardware ? _____

COMPUTER ASSISTED VOCATIONAL MATH
PROJECT DIRECTORS
Millicent McNearney
Monica McAlister
Judith Daly
A WORKSHOP TO MEET THE NEEDS OF THE '80'S!!!
Prin. Richard Fosko
Manchester Twp. High School
Colonial Drive
Lakehurst, New Jersey
08733

COMPUTER ASSISTED VOCATIONAL MATH WORKSHOP

TABLE OF CONTENTS

I. AGENDA -

for the Computer Assisted Vocational Math Workshop

II. BACKGROUND INFORMATION -

Why Computer Assisted Vocational Math came about --

How it is being used --

What makes it unique?

III. TOPICS -

A. Learn a Little Basic

B. Write Your Own Program

C. Editing the Written Word

D. Practical Applications (using the Computer Assisted Vocational Math program)

IV. SAMPLE PACKET

V. TROUBLE SHOOTING MANUAL

IV. EVALUATION FORM

A G E N D A

9:00 - 9:30	REGISTRATION -- SIGN-IN (Coffee and Danish will be provided)
9:30 - 10:30	THE HOW, WHAT AND WHY OF CAVM Introduction to CAVM Curriculum
10:30 - 12:00	LEARN A LITTLE BASIC Explore the language of the TRS-80
12:00 - 1:00	LUNCH Hot and Cold Buffet will be provided
1:00 - 2:00	PRACTICAL APPLICATIONS HANDS ON ACTIVITIES and CAVM CURRICULUM PROGRAMS
NOTE: - - - - - - - - - -	If you have access to a TRS-80, bring some blank tapes so you can borrow our programs.
2:00 - 2:30	WORKSHOP EVALUATION

BACKGROUND INFORMATION

BACKGROUND INFORMATION

In order to implement the Computer Assisted Vocational Mathematics curriculum, a basic understanding of its development is necessary. Over a period of one week, traditional teaching methods were employed for four of the five class periods. The fifth class was devoted to instruction via the micro computer. Career Mathematics: Industry and Trades (Lyng et al., Houghton Mifflin, 1974) was the textbook that was primarily used although any vocational mathematics book or general math book could be supplemented. Our Computer Assisted Vocational Mathematics classes were limited to ten students. However, if you had access to more computers, the class enrollment could increase. There were basically two reasons for this. First, there would be a one-to-one correspondence of students to computers on computer day (the fifth day). Second, the programs could be designed to meet the needs of the pilot group. The topics that were covered in the Computer Assisted Vocational Mathematics curriculum were jointly developed by vocational teachers and the mathematics teachers who were involved in the writing of the program.

A total of 32 packets were written (see Sample Packet Breakdown). Since some topics required more instructional time than others, coordinated computer games were supplemented when necessary.

We would like to note at this time that the Computer Assisted Vocational Mathematics curriculum is not intended to be used alone but would enhance a vocational mathematics/applied math course. Since the typical school year consists of 40 weeks, a 32-week program allows for individual school differences that might occur.

TOPICS

A. LEARN A LITTLE BASIC

MAIN TOPICS OF DISCUSSION ON PROGRAMMING

IN BASIC

I. What exactly is hardware vs. software?

II. Do you know your RAM from your ROM?

III. How's your MEMORY?

IV. Let's ENTER into the world of BASIC.

V. Are you PROMPT and how's your CURSOR?

VI. Let's get with the PROGRAM !

VII. Should you RUN before you LIST?

VIII. What ------- me make an ERROR?

IX. Let's NEW(K) them, gang!!!

X. Here we go LOOP-D-LOOP!

XI. IF you are keeping up so far - THEN we'll move along!

XII. How about a little INPUT from you?

XIII. More LOOPS!!

XIV. The generation of RANDOMS

XV. In these times of inflation - How do we CSAVE?

XVI. SET, RESET, SET, RESET, SET, RESET-What the blink is going on?

DEFINITIONS OF KEY WORDS

HARDWARE

SOFTWARE

ROM

RAM

MEMORY

ENTER

PROMPT

CURSOR

PROGRAM

PRINT

RUN

LIST

CLS

NEW

GOTO

BREAK

IF-THEN

FOR-NEXT

RANDOM

CLOAD

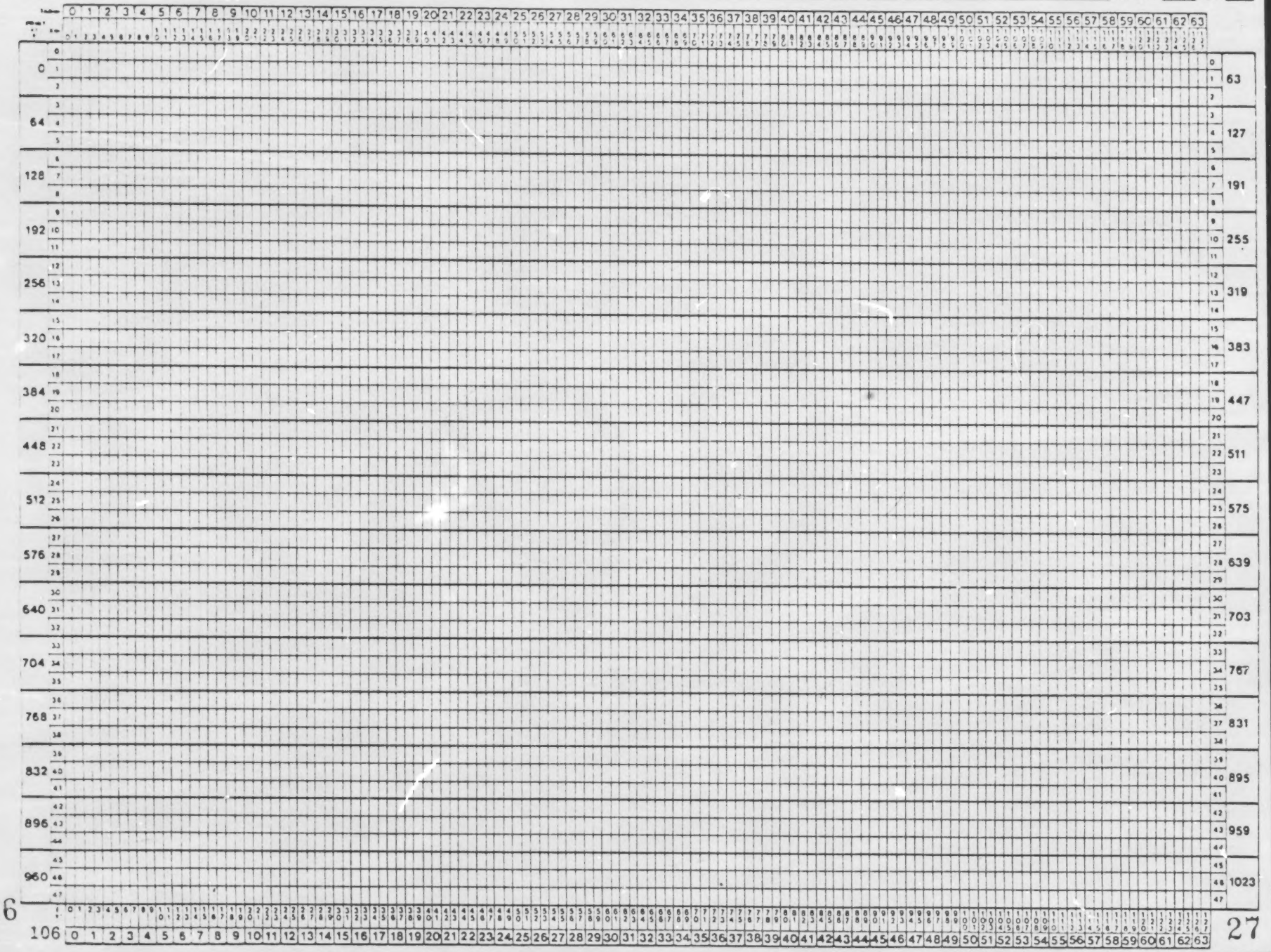
CSAVE

SET

RESET

TRS-80 Video Display Worksheet

TITLE _____ PROGRAMMER _____ COMMENTS _____ PAGE ____ OF ____



106

B. WRITE YOUR OWN PROGRAM

WRITE YOUR OWN PROGRAM

1. AVERAGE YOUR GRADES:

2. SOLVING INTEREST PROBLEMS:

NOTES

C. EDITING THE WRITTEN WORD

EDITING

A unique feature of the TRS-80, Level II is its ability to edit. As garbage is picked up by the tapes, changes in data or random generators must be made or errors to be corrected keep appearing. This function is invaluable to the instructor.

To see all of your program type LIST and press /Enter/. The entire program will scroll up the screen. However to see any portion of the program, type LIST line # - line # and press /Enter/. For example, LIST 300 - 320 will cause the lines 300 through 320 inclusive to appear on the screen.

In order to edit, you must first get into edit mode. To do this, type in EDIT followed by the line number of the lines needing changes. For example,

EDIT 200

Press /Enter/ and the line number will appear beneath the command with the cursor directly after it such as,

200 _

You are now ready to edit.

If you press the /Space Bar/, one character at a time will appear on the screen until you reach the section of the line that needs editing. For a total line to appear first (so you may take a good look at it and still remain in edit mode), press /L/ and /Enter/.

Now let's go into specific editing features.

1. To change a character, press /C/ at the point needing change then type in the corrected character. If other changes are needed of

some line, press the /Space Bar/ to get there, then repeat the process. When changes are complete, press /Enter/.

2. To delete a character is similar to changing, except when you reach the character to be deleted, press /D/. Each time /D/ is pressed, another character is erased from line. Press /Enter/ when corrections are complete.

Both features, changing and deleting, can be done for more than one character by typing in number of characters to be edited first then either /C/ or /D/ such as,

Type 3 C - enables you to change 3 characters

Type 5 D - automatically erases 5 characters

3. If you wish to extend a line previously entered, press /X/ and the line will appear ready to be added to.

4. Inserting additional characters in a line is done by typing in /I/. You now can insert as many characters as needed in that part of line as you wish. To get out of insert mode, press either /Enter/ to end or left /Shift/ then /↑/ (up arrow). This allows you to move to another section of same line to continue editing before pressing /Enter/.

D. PRACTICAL APPLICATION

PRACTICAL APPLICATIONS

1. Diagnostic Test
2. Addition of Decimals
3. Subtraction of Decimals
4. Multiplication of Decimals
5. Division of Decimals
6. Rounding Numbers
7. Ruler I - Equivalent Fractions
8. Fraction Concentration
9. Ruler II - Improper Fractions, Mixed Numbers, Multiplication and Division of Fractions
10. Ruler II - Concentration
11. Introduction to Percents
12. Payroll
13. Metric Measure - Length
14. Meter Concentration
15. Metric Measure - Volume
16. Liter Concentration
17. Metric Measure - Mass or Weight
18. Gram Concentration
19. Perimeter
20. Polygon Concentration
21. Area
22. Lateral Area & Total Surface Area
23. Tic Tac Toe
24. Volume
25. Volume of Pyramid, Cone and Sphere
26. Simplifying Expressions, Use of Exponents and Evaluating Expressions
27. Equations
28. Solving Equations with Formulas
29. Shop Formulas
30. Ratio and Proportion
31. Graphing
32. Computer Programming

SAMPLE PACKET

I. PROGRAM TITLE - "Multiplication of Decimals

II. PROGRAM DESCRIPTION
- A. Students will view a brief tutorial section.
- B. Students will be able to do infinite amount of practice problems.
- C. Students will solve 10 multiplication of decimal problems.
- D. Students will use skills of multiplication to fill-in a bill in their vocational field.
- E. All problem sections use random generation.

III. PROGRAM PRINT OUT

IV. REFERENCE MATERIALS
- A. Peer Tutoring Reference Guide
- B. Worksheet
- C. Application Word Problems
- D. Additional Sources
  1. Mervin L. Keedy et al., General Mathematics (Menlo Park, California: Addison Wesley, 1980), Chapter 4, pp. 97-125.
  2. L. Carey Bolster et al., Mathematics in Life (Glenview, Illinois: Scott, Foresman & Co., 1977), Chapter 5, pp. 86-104.

V. SKILLS NEEDED

Knowledge of times tables; skill in multiplication of whole numbers.

```
'*****************************************************
'**********      MULTIPLICATION OF DECIMALS  **********
'**********           WRITTEN   BY           **********
'**********           M. MC NEARNEY          **********
'**********           M. MC ALISTER          **********
'**********              J. DALY             **********
'**********     COMP. ASSISTED VOC.MATH      **********
'**********              MAY 1981            **********
'*****************************************************
10 DEFDBL Z
11 CLEAR 200
12 DIM R$(11),T$(21)
20 FOR N = 1 TO 11
25    READ R$(N)
30 NEXT
33 FOR N = 1 TO 4
34    READ P$(N)
35 NEXT
36 FOR N= 1 TO 4
37    READ P1$(N)
38 NEXT
39 FOR N = 1 TO 6
40   READ P2$(N)
41 NEXT
42 FOR N = 1 TO 21
43   READ T$(N)
44 NEXT
80 CLS
85 PRINT@400, "MULTIPLICATION OF dECIMALS"
90 FOR X = 10 TO 117:SET(X,13):SET(X,25):NEXT:FOR Y = 13 TO 25:SET(10,Y):SET(117
,Y):NEXT
99 GOSUB 6000
100 PRINT@384, " ";:INPUT "PLEASE TYPE IN YOUR NAME";A$
112 PRINT@512, " ";:INPUT "WOULD YOU LIKE TO REVIEW FIRST";S$
114 IF S$ = "NO" THEN GOTO 580
120 FOR N =1 TO 1000:NEXT
125 CLS
130 PRINT@192, "WELCOME "A$", TO MY LESSON ON MULTIPLICATION OF DECIMALS!"
135 GOSUB 5000
140 PRINT@320, "IN ORDER TO DO YOUR BEST ON THE TEST"
145 GOSUB 5000
150 PRINT@465, "1. KNOW YOUR TIMES TABLES"
153 GOSUB 5000
155 PRINT@593, "2. TAKE NOTES ON THE LESSON"
158 GOSUB 5000
160 PRINT@721, "3. DO THE PRACTICE EXAMPLES"
170 GOSUB 6000
180 CLS
190 PRINT@72, "1. mULTIPLY AS WITH WHOLE NUMBERS"
200 GOSUB 5000
210 PRINT@200, "2. FIND THE SUM OF THE DECIMAL PLACES IN THE FACTORS"
220 GOSUB 5000
230 PRINT@328, "3. THIS SUM IS THE NUMBER OF DEC. PLACES IN THE PRODUCT"
240 GOSUB 5000
```

```
250 PRINT@532, "X6.5";
260 PRINT@596, STRING$(4,CHR$(45));
270 PRINT@476, STRING$(3,CHR$(93));:PRINT"       2 DECIMAL PLACES";
280 GOSUB 5000
290 PRINT@540, STRING$(3,CHR$(93));:PRINT"       1 DECIMAL PLACES";
300 GOSUB 5000
330 FOR X = 4 TO 1 STEP -1
335 PRINT@(659 + X),P$(X);
337 FOR N = 1 TO 700:NEXT
340 NEXT
350 FOR X =4 TO 1 STEP -1
360    PRINT@(722 + X),P1$(X)
365    FOR N = 1 TO 700:NEXT
370 NEXT
380 PRINT@787, STRING$(6,CHR$(45))
420 FOR X =6 TO 1 STEP -1
430     PRINT@(849+X),P2$(X)
440    FOR N = 1 TO 700:NEXT
450 NEXT
460 PRINT@860, STRING$(3,CHR$(93));:PRINT"       3 DECIMAL PLACES"
470 GOSUB 6000
475 CLS
480 PRINT@64, A$", LET'S LOOK AT ONE MORE PROBLEM!!"
490 GOSUB 5000
500 PRINT@192, "FIND THE PRODUCT OF      456   x    .0002"
510 PRINT@320, "TRY IT YOURSELF AND TYPE IN THE ANSWER.";:INPUT S$
530 PRINT@448, "WELL, HERE IS MY VERSION!!!"
540 GOSUB 5000
545 PRINT@543, "456":PRINT@604,"X.0002"
550 PRINT@669, STRING$(6,CHR$(45)):M$=".0912"
560 PRINT@733,M$;
565 IF VAL(S$) = VAL(M$) THEN PRINT@740, "YOU DID IT, "A$ ELSE PRINT@740, "SORRY
, "A$
570 GOSUB 5000
572 '*************************************************************
573 '**********       QUIZ ON MULTIPLICATION     **************
574 '*************************************************************
575 IF VAL(S$) = VAL(M$) THEN PRINT@832, "DO THE NEXT 4 PROBLEMS, THEN GO TO QUI
Z!" ELSE PRINT@832, "BE SURE TO DO A LOT OF PRACTICE PROBLEMS!"
580 GOSUB 6000
585 CLS
590 FOR N=1 TO2
```

```
250 PRINT@532, "X6.5";
260 PRINT@596, STRING$(4,CHR$(45));
270 PRINT@476, STRING$(3,CHR$(93));:PRINT"       2 DECIMAL PLACES";
280 GOSUB 5000
290 PRINT@540, STRING$(3,CHR$(93));:PRINT"       1 DECIMAL PLACES";
300 GOSUB 5000
330 FOR X = 4 TO 1 STEP -1
335 PRINT@(659 + X),P$(X);
337 FOR N = 1 TO 700:NEXT
340 NEXT
350 FOR X =4 TO 1 STEP -1
360    PRINT@(722 + X),P1$(X)
365    FOR N = 1 TO 700:NEXT
370 NEXT
380 PRINT@787, STRING$(6,CHR$(45))
420 FOR X =6 TO 1 STEP -1
430     PRINT@(849+X),P2$(X)
440    FOR N = 1 TO 700:NEXT
450 NEXT
460 PRINT@860, STRING$(3,CHR$(93));:PRINT"       3 DECIMAL PLACES"
470 GOSUB 6000
475 CLS
480 PRINT@64, A$", LET'S LOOK AT ONE MORE PROBLEM!!"
490 GOSUB 5000
500 PRINT@192, "FIND THE PRODUCT OF      456   x   .0002"
510 PRINT@320, "TRY IT YOURSELF AND TYPE IN THE ANSWER.";:INPUT S$
530 PRINT@448, "WELL, HERE IS MY VERSION!!!"
540 GOSUB 5000
545 PRINT@543, "456":PRINT@604,"X.0002"
550 PRINT@669, STRING$(6,CHR$(45)):M$=".0912"
560 PRINT@733,M$;
565 IF VAL(S$) = VAL(M$) THEN PRINT@740, "YOU DID IT, "A$ ELSE PRINT@740, "SORRY
, "A$
570 GOSUB 5000
572 '*************************************************
573 '**********       QUIZ ON MULTIPLICATION     **********
574 '*************************************************
575 IF VAL(S$) = VAL(M$) THEN PRINT@832, "DO THE NEXT 4 PROBLEMS, THEN GO TO QUI
Z!" ELSE PRINT@832, "BE SURE TO DO A LOT OF PRACTICE PROBLEMS!"
580 GOSUB 6000
585 CLS
590 FOR N=1 TO2
```

```
593 F = F+1
595 PRINT@64, "PRACTICE PROBLEM #"F
600 A = RND(10)+RND(99)/100:B = RND(9)+RND(9)/10:E = RND(100):D = RND(99)/10
610 A1$=STR$(A):B1$=STR$(B):E1$=STR$(E):D1$=STR$(D)
620 IF LEN(A1$)>6 OR LEN(B1$)>6 OR LEN(E1$)>6 OR LEN(D1$)>6 THEN GOTO 600
625 PRINT
630 PRINT@256, A"        X          "B"    =    ";:INPUTZ$:GOSUB 7000
635 GOSUB 6000
637 CLS
638 F = F+1
639 PRINT@64, "PRACTICE PROBLEM #"F
640 PRINT@256, E"        X          "D"    =    ";:INPUTZ2$:GOSUB 7050
645 GOSUB 6000
650 CLS
660 NEXT
700 CLS
712 PRINT@384,"WOULD YOU LIKE TO DO MORE PRACTICE PROBLEMS";:INPUT J$
715 IF J$= "YES" THEN GOTO 585
720 CLS
722 C = 0
725 PRINT@448, A$", GET READY FOR THE QUIZ ON MULTIPLICATION!!!"
730 GOSUB 6000
735 CLS
740 FOR T = 1 TO 5
745 G =G+1
750 PRINT@90, "PROB. #"G
755 A = RND(9)+RND(99)/100:B = RND(99)+RND(9)/10:E =RND(99):D =RND(9)+RND(9)/10
760 A1$=STR$(A):B1$=STR$(B):E1$=STR$(E):D1$=STR$(D)
765 IF LEN(A1$)>6 OR LEN(B1$)>6 OR LEN(E1$)>6 OR LEN(D1$)>6 THEN GOTO755
767 PRINT
770 PRINT@256, A"        X          "B"    =    ";:INPUT Z :Z$=STR$(Z)
775 GOSUB 7000
780 GOSUB 6000
790 CLS
800 G = G+1
810 PRINT@90, "PROB. #"G
820 PRINT
830 PRINT@256,E"        X          "D"    =    ";:INPUTZ2:Z2$ = STR$(Z2)
840 GOSUB 7050
850 GOSUB 6000
855 CLS
860 NEXT
870 PRINT@384, A$", YOUR SCORE FOR THE QUIZ WAS"(C/10)*100" %"
880 PRINT@512, "BE SURE TO GET THIS RECORDED BY THE TEACHER BEFORE YOU GO ON!!!"
890 GOSUB 6000
900 CLS
905 C =0
910 PRINT@384,"HERE WE GO TO THE VOCATIONAL QUESTIONS.  DO YOUR BEST!"
```

```
                                  " VOCATIONAL QUESTIONS.  DO YOUR BEST!"
 920 PRINT@512, "YOU WILL BE GIVEN A BILL WITH 3 ITEMS AND THEIR COST."
 930 PRINT@640, "FIGURE OUT THE TOTAL COST FOR EACH ITEM."
 940 GOSUB 6000
 950 GOTO 4000
1025 V1$=STR$(V1):V2$=STR$(V2):
3996 '*************************************************************
3997 '**********        MENU FOR VOCATIONS        **********
3998 '*************************************************************
4000 CLS
4010 PRINT@30, "MENU"
4020 PRINT@275,"1";TAB(25);"AUTOMOTIVE"
4030 PRINT@339,"2";TAB(25);"BEAUTY CULTURE"
4040 PRINT@403,"3";TAB(25);"CLIMATE CONTROL"
4050 PRINT@467,"4";TAB(25);"ELECTRICAL"
4060 PRINT@531,"5";TAB(25);"MED. DENT. TECH."
4070 PRINT@595,"6";TAB(25);"REC. VEHICLES"
4080 PRINT@659,"7";TAB(25);"BUILDING tRADES"
4090 PRINT@840," ";:INPUT"ENTER THE NUMBER OF YOUR VOCATIONAL FIELD";Q
4099 CLS
4100 PRINT@132,"AMT                ITEM                    @        COST"
4120 U$ = "##     %                              %    $##.##"
4123 V(1)=RND(10):V1(1)=RND(5)+RND(99)/100:V$(1)=STR$(V(1)):V1$(1)=STR$(V1(1))
4125 PRINT@323, " ";:PRINT USING U$;V(1),T$(Q),V1(1)
4130 V(2)=RND(10):V1(2)=RND(8)+RND(99)/100:V$(2)=STR$(V(2)):V1$(2)=STR$(V1(2))
4135 PRINT@451, " ";:PRINT USING U$;V(2),T$(Q+7),V1(2)
4140 V(3)=RND(20):V1(3)=RND(20)+RND(99)/100:V$(3)=STR$(V(3)):V1$(3)=STR$(V1(3))
4145 PRINT@579, " ";:PRINT USING U$;V(3),T$(Q+14),V1(3)
4150 GOSUB 9000
4160 F$="$$##.##":PRINT@364, " ";:INPUT Z$:N=1:GOSUB 10000:Z$="$"+Z$:PRINT@367,Z
$;:PRINT@365," ";
4165 FOR X = 5 TO 112:SET(X,18):NEXT
4167 FOR Y=19 TO 20:SET(5,Y):SET(17,Y):SET(66,Y):SET(86,Y):SET(112,Y):NEXT
4170 PRINT@492, " ";:INPUTZ$:N=2:GOSUB 10000:Z$="$"+Z$:PRINT@495,Z$;:PRINT@493,"
";
4175 FOR X = 5 TO 112:SET(X,25):NEXT
4177 FOR Y=24 TO 26 STEP 2:SET(5,Y):SET(17,Y):SET(66,Y):SET(86,Y):SET(112,Y):NEX

4180 PRINT@620," ";:INPUTZ$:N=3:GOSUB 10000:Z$="$"+Z$:PRINT@623,Z$;:PRINT@621,"
";
4185 FOR X = 5 TO 112:SET(X,32):NEXT
4187 FOR Y = 30 TO 31:SET(5,Y):SET(17,Y):SET(66,Y):SET(86,Y):SET(112,Y):NEXT
4200 GOSUB 6000
4210 CLS
4220 PRINT@384, A$", YOUR SCORE FOR THE VOCATIONAL QUIZ IS"(C/3)*100" %"
4230 PRINT@512, "PLEASE GET THIS GRADE RECORDED BY THE TEACHER!!"
4240 GOSUB 6000
4250 CLS
4260 PRINT@384, "IT HAS BEEN A PLEASURE WORKING FOR YOU, "A$
4270 PRINT@512, "GOOD-BYE FOR NOW!!"
4280 GOTO4280
5999 GOSUB 6000
6000 FOR N= 1 TO 1000:NEXT:RETURN
6000 PRINT@960, "PRESS c TO CONTINUE"
6001 I$ = INKEY$:IF I$ = "C"THEN RETURN
6002 IF I$ = "S" THEN 6500
6003 GOTO 6001
```

```
6003 GOTO 6001
6500 '*****************       STOP FEATURE       ********************
6501 CLS
6502 PRINT@512, "YOU HAD "C" PROBLEMS OUT OF "G" CORRECT FOR A SCORE OF"(C/G)*10
0 %"
6503 PRINT@576, "TO CONTINUE ENTER 'C'"
6504 PRINT@640, "TO GO TO THE MENU ENTER 'M'"
6505 PRINT@704, "TO END ENTER 'E'"
6506 INPUT Z$
6507 IF Z$ = "C" RETURN
6508 IF Z$ = "M" CLS:GOTO 4000
6509 IF Z$ = "E" END
7000 '*************************************************************
7001 '*************    SCORING THE QUIZ    ************************
7002 '*************************************************************
7003 W1$ = (INT((VAL(A1$)*VAL(B1$)+.000005)*100000))/100000:W1$ = STR$(W1$)
7008 IF VAL(Z$) = VAL(W1$):X = RND(11):FOR NJ = 1 TO 10:PRINT@730, "
              ":PRINT@730, R$(X):NEXT:C = C+1:RETURN
7009 PRINT@715,"SORRY, "A$".  THE CORRECT ANSWER IS"W1$
7010 RETURN
7050 K2 = (INT((VAL(E1$)*VAL(D1$)+.000005)*100000))/100000:K2$ = STR$(K2)
7052 IF VAL(Z2$)=VAL(K2$):X = RND(11):FOR NJ = 1 TO 10:PRINT@730, "
              ":PRINT@730,R$(X):C =C+1:RETURN
7053 PRINT@715, "SORRY, "A$".  THE CORRECT ANSWER IS"K2$
7055 RETURN
8000 '*************************************************************
8001 '*************         DATA LINES       ************************
8002 '*************************************************************
8003 DATA "TERRIFIC!!","GOOD WORK!!","YOU'RE GREAT!!","LOVE IT!!","EXCELLENT!!",
NICE GOING!!","SUPER!!!","FANTASTIC!!","INCREDIBLE!!","A-OKAY!!","BEAUTIFUL WOR
K!!!"
8004 DATA 2,9,3,5
8005 DATA 3,5,2,2
8006 DATA 3,8,.,1,5,5
8007 DATA GASKETS, HAIR BRUSHES,FILTERS,SWITCHES,TEST TUBES,CANS OF GLUE,BOX OF
AILS
8008 DATA FAN BELTS,HAIR CONDITIONER,DRAIN TROUGH,FUSES,THROAT SWABS,SPLASH GUAR
DS,HAMMERS
8009 DATA AIR FILTERS, BOXES OF PINS,CONDENSER COILS,CAPACITORS,LANCETS, VENT CO
VERS,BOX OF STAPLES
9000 '*************************************************************
9001 '**********    GRAPHIC OF BILL FOR MENU    *******************
9002 '*************************************************************
9003 FOR X = 5 TO 112:SET(X,4):SET(X,11):SET(X,18):SET(X,25):SET(X,32):NEXT
9004 FOR Y = 4 TO 32:SET(5,Y):SET(17,Y):SET(66,Y):SET(86,Y):SET(112,Y):NEXT
9005 RETURN
10000 '************************************************************
10010 '*************   SCORING FOR MENU QUIZ    *******************
10020 '************************************************************
10030 X1$=(INT((VAL(V$(N))*VAL(V1$(N))+.000005)*100000))/100000:X$=STR$(X1$)
10035 IF LEFT$(Z$,1)="$" THEN Z$=RIGHT$(Z$,(LEN(Z$)-1))
10040 IF VAL(Z$)=VAL(X$):L=RND(11):FOR NJ=1 TO10:PRINT@843,"
                                    ":PRINT@858,R$(L):NEXT:C=C+1:RETURN
10050 F$="$$##.##":PRINT@843, "SORRY, "A$", THE CORRECT ANSWER IS ";:PRINT USING
F$;X1$
10060 RETURN
```

MULTIPLICATION OF DECIMALS

Peer Tutoring Reference Guide

In order to do your best on this section, it would be wise to:

1. know your times tables
2. do as many practice examples as needed

The rules of multiplication of decimals are threefold:

1. multiply as with whole numbers
2. find total of decimal places in all factors
3. this is the number of decimal places in the product (always count in from right to left)

```
  5.87   ← 2 decimal places
x 6.5    ← 1 decimal places
------
 2935
 3522
------
38.155   ← 3 decimal places
```

Let's look at one more problem involving a whole number such as

456 x .0002

Remember that the decimal point is behind all numbers; therefore, 456 has no decimal places

```
   456   ← 0 decimal places
x .0002  ← 4 decimal places
-------
 .0912   ← 4 decimal places
```

Do the next four practice problems:

1. 4.568 x 5.96

2. 3.256 x .0506

3. .0963 x 59

4. 2.768 x 56.9

Peer Tutoring Reference Guide, Continued

The answers to the four practice problems are following:

1.
```
  4.568     3 decimal places
x 5.96      2 decimal places
 27408
 41112
 22840
-------
27.22528    5 decimal places
```

2.
```
  3.256     3 decimal places
x.0506      4 decimal places
 19536
162800
-------
.1647536    7 decimal places
```

3.
```
  .0963     4 decimal places
x   59      0 decimal places
  8667
 4815
-------
5.6817      4 decimal places
```

4.
```
  2.768     3 decimal places
x 56.9      1 decimap place
 24912
 16608
 13840
-------
157.4992    4 decimal places
```

MULTIPLICATION OF DECIMALS

Worksheet

1. 4.8 x 62.1 = _____
2. .058 x 25 = _____
3. 1.36 x .8 = _____
4. .53 x 17.2 = _____
5. .004 x 9.6 = _____
6. 25.7 x 1.2 = _____
7. .82 x 3.06 = _____
8. 7.15 x .002 = _____
9. 2000 x .75 = _____
10. 9.4 x .083 = _____
11. .19 x 5.367 = _____
12. .02715 x 1.34 = _____
13. 7.081 x .0013 = _____
14. 1.09 x .062 = _____
15. .0598 x .032 = _____
16. 8.9034 x .0076 = _____
17. 4.333 x .006 = _____
18. 62.04 x .9 = _____
19. .1051 x .6 = _____
20. 8.896 x 1.96 = _____

MULTIPLICATION OF DECIMALS

Application Problem

This is a sample bill of the Everything Emporium. Given is the amount and the item's cost. Find the total cost per item.

E V E R Y T H I N G E M P O R I U M

AMOUNT	ITEM	COST	TOTAL
12	Spark Plugs	$ .89	
36	Boxes of Hair Pin	2.47	
72	Tubes of Caulking	4.89	
55	Dimmer Switches	2.75	
120	Large Gauze Pads	.43	
24	Splash Guards	8.25	
5	T-Suqares	4.96	
4.5	Nails (@ lb.)	1.25	
20.8	Petroleum Jelly (@ oz.)	.59	
20	Roof Vents	24.95	
33	20 Amp Fuses	.63	
75	Air Conditioner Filters	1.11	
10.5	Shampoo (@ liter)	5.60	
4	Tires	56.50	
18	Bags of Cement	6.75	
13	Tongue Depressors (@ doz.)	2.35	
20	Hair Brushes	4.88	

TROUBLE SHOOTING MANUAL

COMMON ERROR MESSAGES

As you execute a program, you may encounter little error messages along the way. This section will try to explain the most frequently encountered types of errors and how to rectify them. If others do appear, please refer to your microcomputer's manual for instructions.

Errors may occur if garbage is picked up. Garbage will appear as gibberish lines, making no sense at all. If the garbage is very extensive, look up the printout of the program affected and retype in lines containing the damage.

Also, garbage sometimes can be eliminated by loading the program in again at a different volume setting.

In order to try to eliminate garbage, try to store tapes in a place where they cannot become demagnetized (metal cabinets, etc.) or do not use electrical appliances such as vacuum cleaners near them. You should clean cassette players frequently with head cleaner.

Error messages commonly seen are:

SN - syntax error - usually comes from a punctuation error, illegal command or spelling error. To correct, put line in edit mode and look for any of the above for correction (see Editing).

OD - out of data - items in data line number less than the computer expected. This may have occurred when instructor changed data lines to suit needs of class. Be careful to replace pieces of data on a one for one basis.

UL - undefined line - computer was sent to an undefined line to correct nonexistent line.

OM - out of memory - not enough memory left in microcomputer to hold program. To correct, make sure you have a Level II of at least 16K memory. Also, sometimes residual program is left in memory, so NEW can be entered before reloading program.

DATA VS RANDOM GENERATION

In each of the programs, the problems can be produced either by data lines of by random generators. In each case, they have the ability to be changed to better meet the needs of the instructor.

Data lines will give the program less flexibility as it never changes the content of the tests. For instance,

```
1000 DATA  4 + 6,  3 + 9,  2 + 5
```

will always remain the same so that test questions will be mixed according to order of appearance but still be the three problems above.

Random generated problems are certainly preferable as they automatically change the problems each time the test is run. The chances of having the same problem appear twice is very slim. They might appear in the program as

```
111 A = RND (9):  B - RND (9)
112 PRINT A "+" B
```

When executed, a different digit (from 1 to 9 inclusive) will appear each time for A and B.

For class levels, changes might be warrented to alter the problems. Changing DATA lines consists of:

1. having the same amount of data pieces as originally stated in line.

2. exchanging those pieces of data on a one-to-one basis in data lines (remember the commas). For example,

```
1000 DATA  4 + 6,  3 + 9,  2 + 5 can be replaced by
1000 DATA  42 + 36,  95 + 25,  100 + 25
```

It is important to note that if problems are changed and answers are also contained in data lines, the answer line must be changed accordingly.

To change random generators, merely find the line that contains the parts of the problem you wish to change. Then by edit mode, you change the number within the ( ) to whatever limit you wish such as,

A = RND (9) can be changed to

A = RND (999)

This will allow for up to three digit numbers to appear when A is needed.

Look on individual program explanations in this manual for location of either DATA lines or Random generators

WHAT IS A MENU?

The menu portion incorporated in each of the programs is the unique feature of the Computer Assisted Vocational Mathematics curriculum that allows the student to practice their skills in the vocational field of their choice.

After finishing the general tests, a menu appears as follows:

1. AUTOMOTIVE
2. BEAUTY CULTURE
3. CLIMATE CONTROL
4. ELECTRICAL
5. MED DENT TECH
6. REC VEHICLES
7. BUILDING TRADES

By entering the number of the field of your choice, the program automatically branches off to three problems of application in that specific area. Once the student completes the three problems, the test is scored by the computer and presented to the instructor on the screen for the recording of grades.

STOP FEATURE

This is a programming technique designed to allow the instructor to break into a student's test and see the progress at any given point. It will tell the number of problems correct out of the number attempted and the scored earned thus far.

How to use this stop feature:

1. When "PRESS C TO CONTINUE" appears, press /S/ instead.
2. On the screen will appear:

   "(STUDENT'S NAME) SCORED 4 OUT OF 5 TRIED

   FOR A SCORE OF 80%"

3. Following this appearing will be:

   "PRESS C TO CONTINUE"

   "PRESS M TO GO TO MENU"

   "PRESS E TO END"

4. Choose one of the above. If /C/, then you will return where you left off. If /M/, you will skip the rest of the quiz and go directly to the vocational section. If /E/, you will end program with the score as is.

FINDINGS:

1. Sample Evaluation Sheet -

   The following is a sample Evaluation Form used by participants at the Computer Assisted Vocational Math Workshops. (see attached)

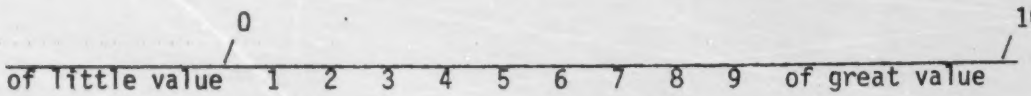
2. Evaluation Data -

   Although 61 people attended the Computer Assisted Vocational Math Workshops, only 36 returned the evaluation forms. (see attached)

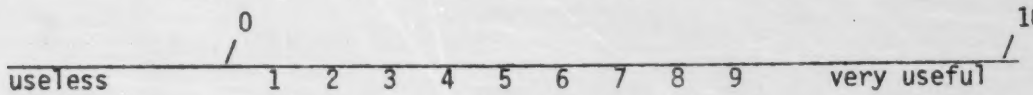
COMPUTER ASSISTED VOCATIONAL MATH
WORKSHOP EVALUATION FORM

Date:_____

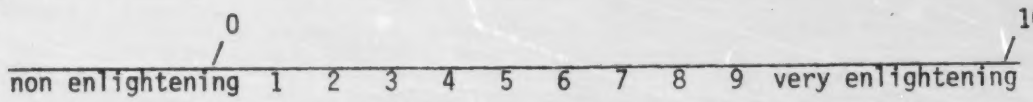
1. The Computer Assisted Vocational Math Workshop was for me . . . . . .



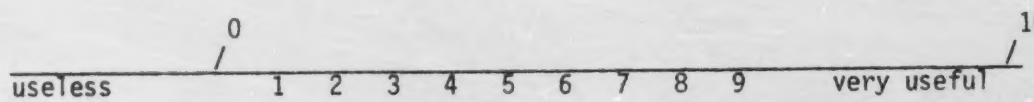
2. The development of a Computer Assisted Vocational Math program or a similar program would be . . . . .



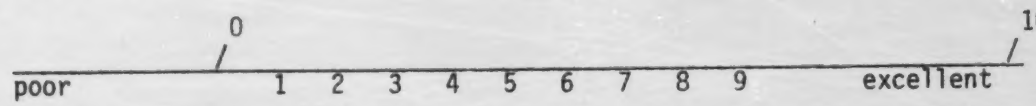
3. I found the "Little Bit of Basic" section . . . . .



4. If I were going to implement Computer Assisted Vocational Math, the "Trouble Shooting" section would be . . . . .



5. My overall evaluation to the Computer Assisted Vocational Math workshop



6. My follow-up needs will be met by. . . . .

- ☐ Receive the CAVM Curriculum Book from the State Dept. of Education
- ☐ Tape copying service
- ☐ Having an on site CAVM orientation at my school/district
- ☐ Other _____

_____

Additional Comments: _____

_____

_____

Suggestions: _____

_____

_____

Manchester Township
High School
Colonial Drive
Lakehurst, N. J. 08733

RICHARD F. FOSKO
PRINCIPAL
JOHN R. CREWS
ASSISTANT PRINCIPAL
JOHN W. DORSEY
DIRECTOR OF GUIDANCE
341-4800

Computer Assisted Vocational Math -- Workshop Evaluation Results

	Score	Percent
1. Out of 36	5	2.7
	6	2.7
	7	8.3
	8	11.1
	9	11.1
	10	63.8
2. Out of 36	5	5.5
	6	2.7
	7	5.5
	8	8.3
	9	19.4
	10	55.5
	N/A	2.7
3. Out of 36	2	2.7
	5	5.5
	6	2.7
	7	11.1
	8	5.5
	9	22.2
	10	38.9
	N/A	11.1
4. Out of 35	7	5.7
	8	11.4
	9	22.9
	10	51.4
	N/A	8.6
5. Out of 37	6	2.7
	7	2.7
	8	13.5
	9	13.5
	10	67.6

6. My Follow-up needs will be met by. . .
   - 18 Receive the CAVM Curriculum Book from the State Dept. of Ed.
   - 13 Tape Copying service
   - 9 Having an on site CAVM orientation at my school/district
   - Other: Additional Workshops
     Hands on work
     Inservice training of teaching staff to be involved

Computer Assisted Vocational Math -- Workshop Evaluation Results (con't)

Additional Comments:

workshop # 1

Superlative job! Enthusiasm and zest for program shows thru.

I am not vocationally oriented, however; I found the workshop most useful for computer information.

Presenters very helpful! Knowledge of subject matter and able to explain it well.

Very worthwhile day!

Everyone was extremely useful.

Forward "Trouble Shooting" along with CAVM curriculum book.

Very good for starting I.A. shop Math Program in comprehensive high school.

Possible computer program or reference data to convert TRS-80 Basic to Commodore PET Basic.

A very fine presentation. THANK YOU!

workshop # 2

Wonderful hospitality

Individuals running workshop were very helpful. Enjoyed the total presentation.

If other workshops were this worthwhile, they wouldn't have to force me to take professional days.

Excellent!

Very informative--enthusiasm and working knowledge of presenters was excellent!

workshop # 3

Very practical and meaningful.

On-site orientation at school would be very useful.

Adaptation to their systems.

Should be more sessions like this more often--geared at giving instructions in use of computer.

Please put the program on tapes to accomodate the Commodore Pet.

Thank you.

Suggestions:

Workshop # 1

Get a 48K, 2 disk machine so copies are easy to make.

Workshop # 2

Do It Again!!

More of the same!!

INTERPRETATION OF FINDINGS

The statistics showed that our workshops dealing with computers and their application to vocational education filled a void in the training of vocational personnel. They rated the overall workshop as excellent and often suggested that similar workshops be held in their schools. Fifty six percent of the participants gave a rating of 10 to developing a program similar to Computer Assisted Vocational Math in their schools.

Finally, the interaction between our school and other vocational or sending schools has increased as evidenced by requests for tapes, books or our aid in incorporating Computer Assisted Vocational Math into their curriculum.

DISSEMINATION

The curriculum was presented to a wide selection of vocational school personnel, administrators and educators from the state of New Jersey via three (3) workshops. The dates were March 1, April 2 and May 14. Each participant was supplied with a booklet that contained sample programs, a lesson in BASIC and hands-on activities. When time permitted, tape copying services were rendered.

SEX BIAS ELIMINATION STRATEGIES

Since the Computer Assisted Vocational Math program was developed free of sex bias and sex role stereotyping, the workshops had a firm basis to work from. All to often educators have a preconceived notion of computers and computer programmers. After attending the workshops, much of the math anxiety and sex role stereotyping was eliminated.

CONCLUSIONS

Based on the enthusiasm of the workshop participants and the outstanding evaluation of the workshops it would seem that a similar program merits certain continuance.

RECOMMENDATIONS

It is our recommendation along with the recommendation of the Advisory Council and workshop participants that:

1. On site Computer Assisted Vocational Math Orientation Workshops be held at their school districts.
2. The programs be converted for use on the Apple and Pet Computers
3. Computer Assisted Vocational Math merits continued exposure.

APPENDICES

LETTERS OF APPRECIATION

(see attached)

OCCUPATIONAL RESOURCE CENTER
Building 871, Plainfield Ave.
Edison, New Jersey 08817
(201) 985-7769

CENTRAL

September 24, 1981

Ms. Monica McAlister
Computer Assisted Vocational Math Program
Manchester Township H.S.
Colonial Drive
Lakehurst, New Jersey 08733

Re: October 29, 1981

Dear Ms McAlister:

Thank you so much for your willingness to conduct the October 29, 1981 workshop, Curriculum and the Computer to be held in Edison. As you can see from the enclosed agenda you are scheduled to present from 10:00 - 12:00 and then provide hands-on activities with the computer from 1:00 - 2:00.

If you have any questions concerning the program please contact Marti Pocsi (609-292-6325). If you have any questions concerning the facilities please call me at (201-985-7769).

Sincerely,

Priscilla R. Walsh

Priscilla R. Walsh
Program Manager, Edison

Enc: October 29, 1981 Agenda (# 40)
cc: M. Pocsi

A service of the N.J. Department of Education,
Division of Vocational Education and Career Preparation,
in cooperation with the Educational Improvement Center-Central (EIC-C)

BAY HEAD HOME AND SCHOOL

February 10, 1989

Dear Monica,

Thank you again for last week's program. We were pleased to have such qualified professionals introduce Bay Head parents to the computer and its uses in the school.

Sincerely,
Nancy N. LaRocco
Vice-President

GROVE AVENUE, BAY HEAD, N. J. 08742

St Joseph's High School, Jane River

11/9/81

Dear Millie -

Just a short note to let you know how much I, and the two Departments, Business and Math appreciated the presentation you and Monica gave for us on Nov. 4th - the time and effort involved, the equipment you brought and the information you shared with us is invaluable. -

Thanks Again.

Sincerely

Toni

American Greetings
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TN 49B

Manchester Township
Public Schools

ROUTE 539
Whiting, New Jersey 08759

RICHARD P. SAXER
SUPERINTENDENT OF SCHOOLS
(201) 350-5901

September 14, 1981

Mrs. Monica McAlister
Manchester Township High School
Lakehurst, New Jersey

Dear Mrs. McAlister,

Thank you so much for your very interesting and enlightening presentation to the Board last Wednesday.

I must report that the Board members were extremely impressed with the program. It is always an excellent thing to have Boards see, first-hand, some of the quality programs that we do have in our district.

Again, I thank you very much for giving up an evening to show your program to the Board.

Sincerely,

RPS/jl
cc: R. Fosko

MONMOUTH
AND OCEAN COUNTIES
NEW JERSEY

SHORE SHOP TEACHERS ASSOCIATION

DECEMBERS NEWSLETTER

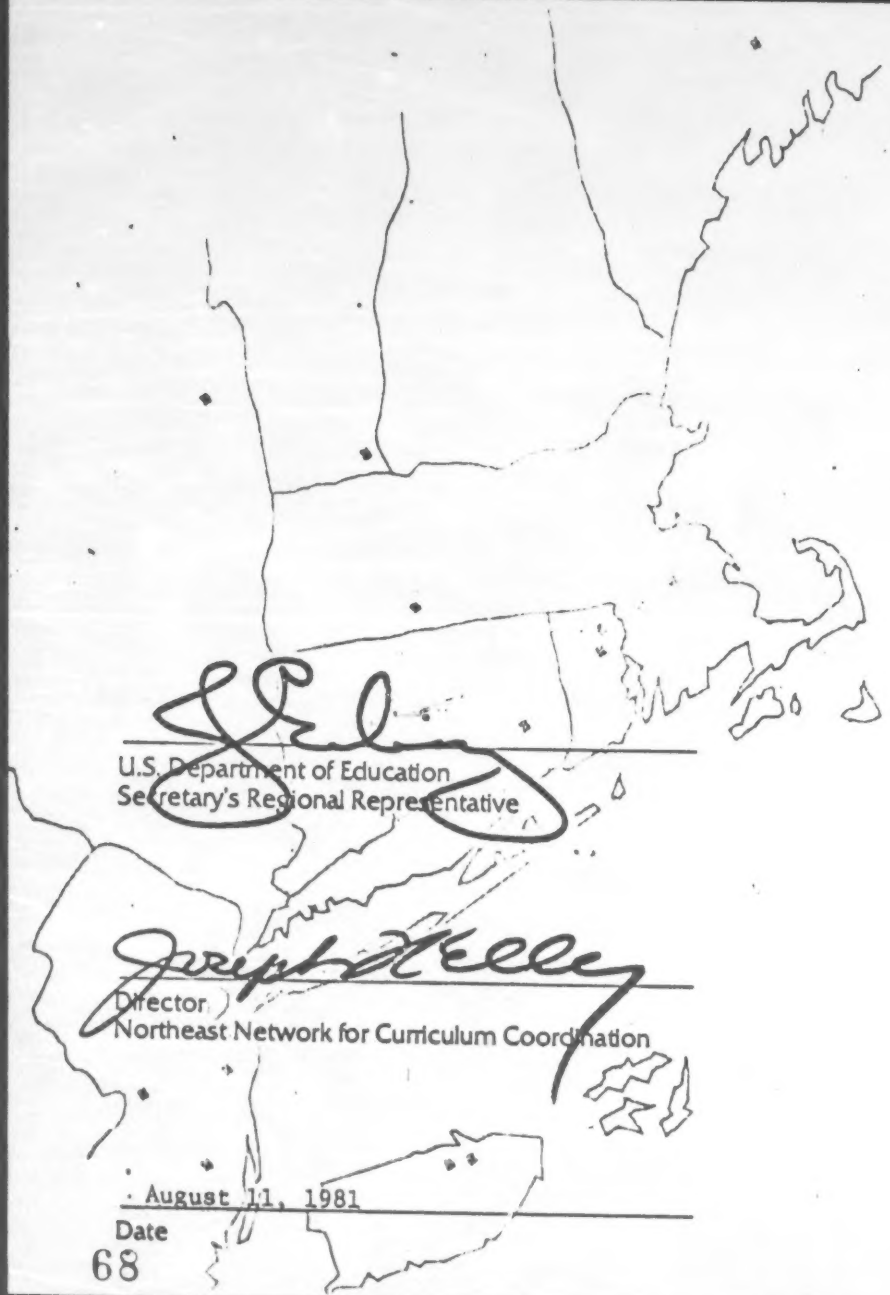
Our Annual Christmas Party will be held in lieu of a December meeting. This will be on Saturday, Dec. 12th starting at 8:00. We are very fortunate in again having Bob and MaryAnn Omert volunteer their home and services for this event. Everyone who attended last years party had a great time. We are asking everyone to bring a covered dish. Beer and Wine will be supplied by Shore Shop. To co-ordinate matters and confirm attendance please call Bob at 793-7702 (after 6 P.M.). Directions to the Omerts are on the enclosed map.

Thanks go to Jerry Roselli and the Manchester IA staff for Hosting Novembers meeting. Also a very special thanks to Millicent McNearney, Monica McAlister and Judy Daly for their terrific presentation on Microcomputers and Computer Assisted Vocational Mathematics. As suggested you will find an application enclosed for a one day workshop on computer assisted curriculum.

I regret to inform the membership of the death of Mr. William Clayton. As reported last month, Bill suffered a heart attack earlier in the school year and was thought to be recuperating nicely. However, He apparently suffered a massive coronary and passed away on Nov. 25th. Bill was 57 years old! He will be missed by everyone who knew him.

A Testamonial Dinner will be held in honor of Conrad Johnson of Trenton State College. This will be on Saturday, Feb. 27, 1982 in the college student center. A sit down Prime Rib dinner will be provided. The cost is $13.00 per person and includes meal, entertainment, gift and gratuity. Checks should be made out to the Johnson Recognition Dinner and sent to Trenton State College, DIET, C/O Dr. Thrower. First come First served.

Shore Shop Shirts are still available on a limited basis. They will be brought to the Christmas Party. Cost - $ 8.00 - a real bargain.....



U.S. Department of Education
Secretary's Regional Representative

Director
Northeast Network for Curriculum Coordination

August 11, 1981
Date

CERTIFICATE OF NOMINATION

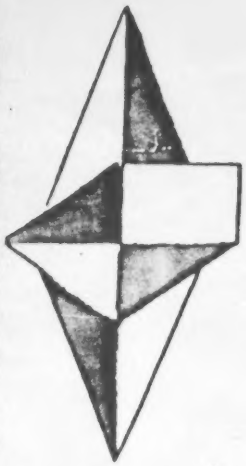
U.S. Secretary of Education's
"Award of Recognition"

Computer-Assisted Vocational Mathematics Curriculum

Manchester Township Board of Education

The above named program, its staff and students, are hereby commended for their initiative in the development and delivery of a high quality vocational education program which addresses one or more of our nationally-perceived priorities.

The program has been nominated by its situate state for award of excellence by the U.S. Secretary of Education.



NETWORK

A Service of the Northeast Network for Curriculum Coordination

March 18, 1982

Connecticut
Maine
Massachusetts
New Hampshire
New Jersey
New York
Puerto Rico
Rhode Island
Vermont
Virgin Islands

Ms. Monica McAlister
Manchester Township High School
Colonial Drive
Lakehurst, New Jersey 08733

Dear Ms. McAlister:

The 1982 RFP Dissemination Conference provided the vocational educators of New Jersey with an opportunity to learn of the work which is currently being done to advance the state of the art in vocational education.

Our keynote speaker, Dr. Norman M.Singer, shared with us his national perspective on research and dissemination and you, so ably, provided the conferees with what's happening in program development and improvement in New Jersey.

Thank you for your very fine presentation on "Computer Assisted Vocational Math" which contributed significantly to the success of the Dissemination Conference. Your professionalism and dedication to vocational education is greatly appreciated.

Sincerely,

Dr. Joseph F. Kelly, Director
Bureau of Occupation and
Career Research Development

/ma

State of New Jersey
DEPARTMENT OF EDUCATION
OCEAN COUNTY SUPERINTENDENT
212 Washington Street
Toms River, N.J. 08753

JOSEPH F. ZACH
SUPERINTENDENT

Gustav Ruh
Acting COMMISSIONER

May 7, 1982

Mrs. Fran Martin
Ridgeway School
Route 571
Lakehurst, NJ 08733

Dear Fran,

Thanks so very much for your help in arranging the School Improvement Council meeting on Friday, May 7.

We were glad to be able to highlight what the staff at the high school is doing. Please extend our appreciation to Millie McNearny for scheduling the workshop, to Monica McAlister for her excellent presentation, and to Dick Fosko for being such a gracious host.

Thanks again.

Sincerely,

Shirley

Shirley Adams
School Program Coordinator

SA/cmk

c.c. Richard Saxer, Superintendent

MAY 1 3 1982